Met Office

NEWS

Climate change made severe UK fires in 2022 six times more likely

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New research shows that the damaging fires during the UK's record-breaking 2022 heatwave were made at least six times more likely due to human-caused climate change.

That summer saw temperatures in this country hit 40°C for the first time and left firefighters stretched, with London Fire Brigade having its 'busiest day since the Second World War'.

The study, involving the Met Office, UK Centre for Ecology & Hydrology and University of Exeter, highlights how rising temperatures and drier conditions driven by climate change, are dramatically increasing the risk of extreme fire weather in the UK. England emerged as the most vulnerable UK nation in the paper, published in the journal *Environmental Research Letters.*

The researchers compared the present day climate to one without human influence through greenhouse gas emissions to understand the influence of climate change on fire weather. They looked at how changes in the weather affected the danger fires posed - how far they were likely to spread and intensify - once they were ignited.

A warning for the future

The study emphasises that climate change is not just a future concern but a present-day reality, with fire risks rising in tandem with global temperatures.

Lead author Dr Chantelle Burton from the Met Office said: "The 2022 heatwave wasn't just record-breaking — it drastically increased the risk of fires, highlighting the growing danger climate change poses to the UK."

Dr Burton added: "We found that the 2022 UK severe fires were made at least six times more likely due to human influence. With hotter, drier summers becoming the norm, fires are an emerging threat to the UK."

Co-author Dr Douglas Kelley, a land surface modeller at the UK Centre for Ecology & Hydrology (UKCEH), added: "Our findings underscore a stark reality: climate change is amplifying fire risks right now, even here in the UK. Wildfires will pose an increasing risk to people, property, infrastructure and ecosystems as temperatures continue to rise."

One of the paper's key messages is the urgent need to adapt to rising fire risks while limiting further warming. An urgent and significant reduction in global greenhouse gas emissions would limit the increase in future fire risks,

while targeted adaptation measures could help communities and ecosystems cope with the escalating threat.

Some actions to reduce fire risks could include enhanced land management, building away from areas at high risk, enhancing detection of fires or public campaigns to reduce accidental fires.

Dr Burton concluded: “The experiences of 2022 serve as a stark reminder of the urgent need to adapt to a changing climate and reduce carbon emissions to limit further warming.”

The researchers used advanced climate models and a ‘fire weather index’ - an indicator of hot, dry, windy weather conditions associated with fires - to assess the risk of extreme fire weather conditions in 2022. By analysing historical data and future scenarios, the study provides critical insights into how fire danger is increasing due to climate change.

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